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ABSTRACT

Two studies examined different treatment procedures to suppress self-stimulating behaviors with the profoundly mentally retarded. In experiment 1, a fine mist of cold water from a spray bottle was applied to the neck of a teenaged student in a class for the profoundly retarded. The intervention was very successful in reducing inappropriate humming behavior in the morning but was less so in the afternoon. In study 2, a timeout "refrigerator box" was used to lessen a second student's inappropriate yelling. Implications of such approaches for profoundly retarded students are addressed in terms of teacher time, use of punishment, and positive reinforcement. (CL)

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"Decreasing Self-Stimulating Behaviors with the Profoundly Mentally Retarded, While Acknowledging Obstacles and Frustrations"

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Inappropriate behavior in the classroom or at home is disruptive to learning (Deitz, Repp, & Deitz 1976), which has prompted treatments to be implemented. An increasing number of studies have shown that deviant behavior of profoundly retarded persons can be successfully suppressed through a variety of applied behavior analysis techniques (Bachman, 1972; Baumeister & Rollings, 1976; Carr, 1977; Frankel & Simmons, 1976; Gaylord-Ross, 1980). Deviant behavior can be approached by using various strategies. Treatment can focus on reinforcing alternative behaviors or by punishing the deviant behavior. Punishment has been found to be the most consistent of all behavioral treatments in reducing inappropriate behaviors (Baumeister & Rollings, 1976; Russo, Carr, & Lovaas, 1980).

The first purpose of the present study was to evaluate the differential effectiveness of a number of treatment procedures that have shown success in past studies in suppressing self-stimulating behaviors with the profoundly mentally retarded. Experiment I examined the effects of applying a fine mist of cold water to the neck via spray bottle in suppressing a humming sound. Experiment II examined the effects of consistent 5 minute time-out intervals in suppressing yelling. The second purpose of the study was to encourage educators to initiate ongoing research with the profoundly mentally retarded by spotlighting obstacles and frustrations that educators will encounter.

Method

Subjects and Setting

The study which follows took place in a center for the retarded in Rock Hill, S.C. The two students which are examined in this study are in a class for the profoundly retarded, are in their early teens, are non-verbal, and exhibit a behavior sound that is annoying to listen to and unappealing to watch. It was the authors' beliefs that by attempting to diminish their identified behaviors by at least 50% the students would receive more positive, rather than negative, attention each day and as a result be happier and more content.

Observation

A data keeper was hired to observe the two students one hour each day for three months. The observation time was always 9:00 to 10:00 A.M.

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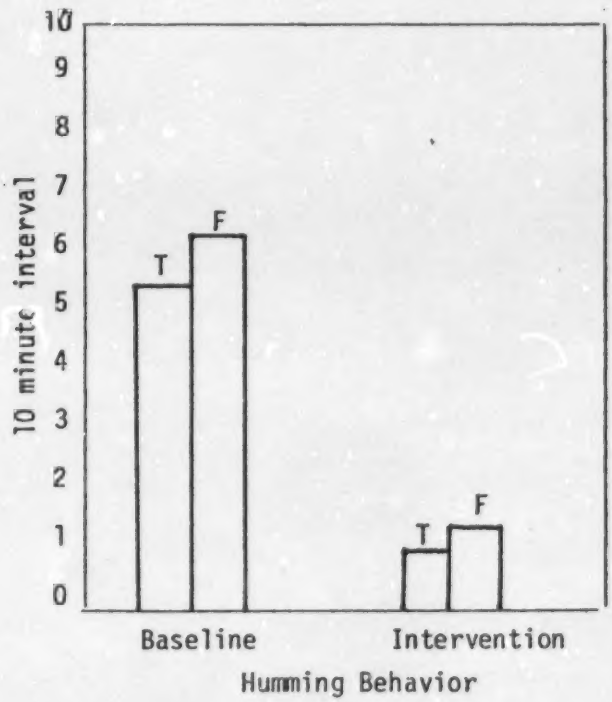
Student A's annoying behavior was displayed as a loud humming sound. The data keeper was asked to use a stop watch and record the number of minutes per ten minute interval that Student A displayed humming while working with a teacher on a one to one basis versus free time. After two weeks of baseline, it was calculated that the average number of minutes, in a ten minute interval, that Student A displayed the behavior was 5.24 minutes during teacher instruction versus 6.11 minutes during free time.

After previous trial and error, an intervention plan was started. It consisted of having all staff wear on their belts, a squirt bottle full of cold water. Each time the student hummed, the staff member said to her, "No humming" and squirted her in the neck with the cold water. After two weeks, there was a significant decrease in the behavior. She displayed the behavior .73 minutes during teacher instruction versus 1.27 minutes during free time.

Figure 1 illustrates baseline and intervention for Student A.

Figure 1
Student A's Graph for Baseline and Intervention

T = Teacher Instruction
F = Free Time



During the mornings, the intervention plan appeared to be very effective. However, in the afternoons the student unfortunately did not seem to dislike a squirt of water as much. There was an increase in the humming during the afternoon period.

Student B's annoying behavior was displayed as a loud yell everytime he was the least bit excited. After having the data keeper observe Student B for two weeks of baseline, it was calculated that the average number of minutes, in a ten minute interval, that Student B exhibited the yelling behavior was 1.21 minutes during teacher instruction versus 1.77 minutes during Free time.

An intervention plan was begun. It consisted of having a refrigerator box, with a cardboard door, for Student B to sit in for five minutes each time a yell was exhibited. The staff member who lead Student B to the box was to mark a chart each time the student was put in the box and set a timer for five minutes. The verbal reminder of "No yelling" was used before and after being in the box. The first day of intervention Student B was in the box fifteen times for forty-five minutes. During the last week of data keeping, the student was sitting in the box approximately four times or twenty minutes.

Figure 2
Student B's - Baseline - Yelling Behavior

T = Teacher Instruction
F = Free Time

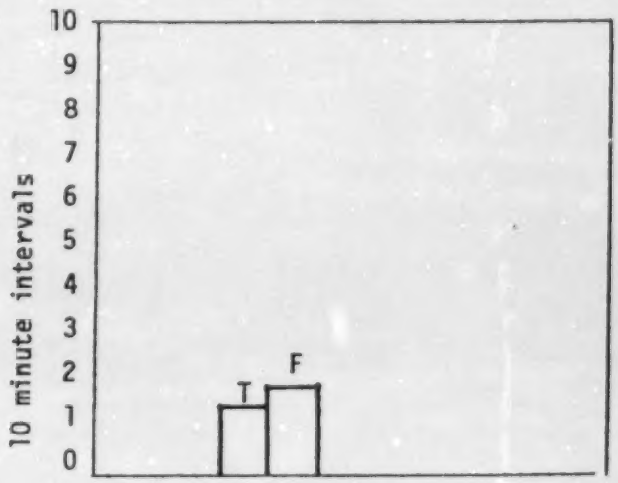
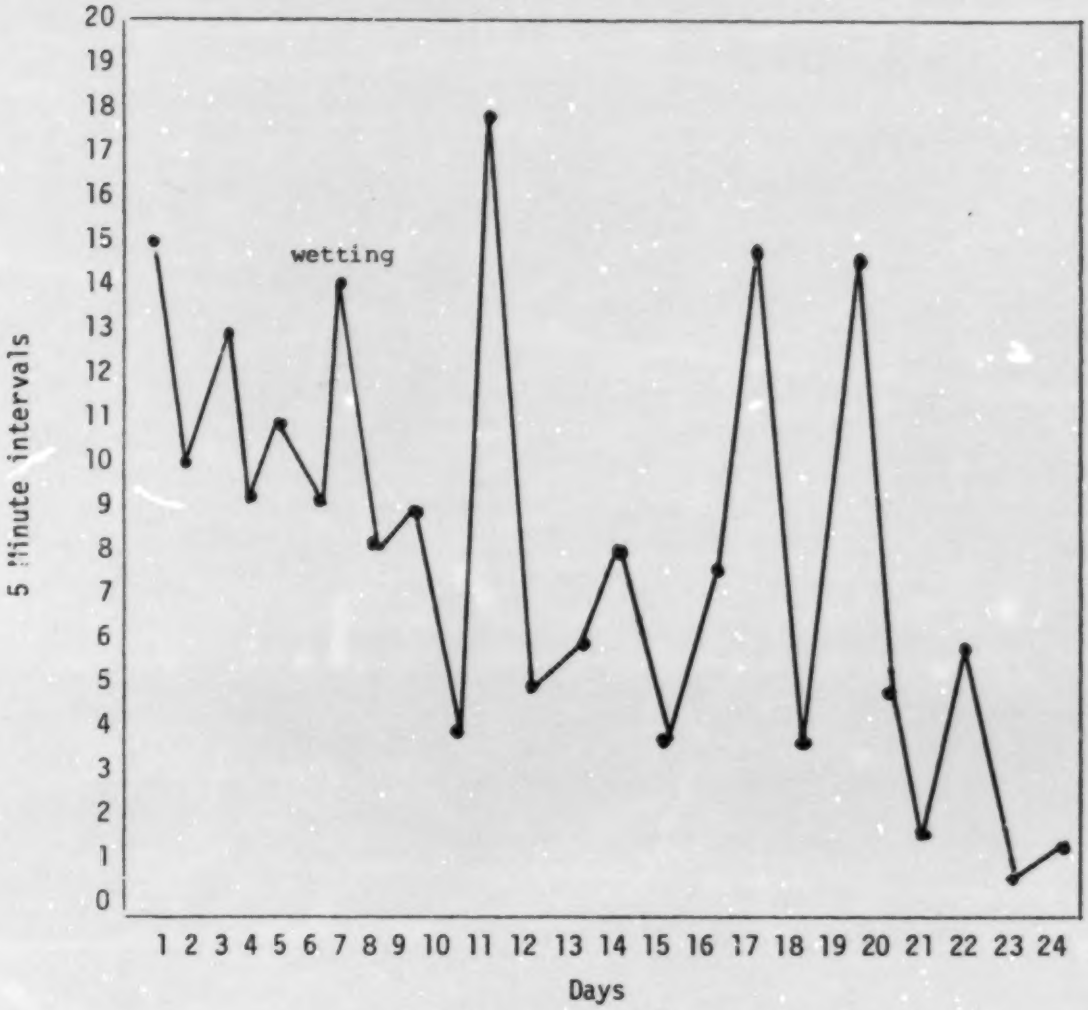


Figure 3

Student B's - Intervention - Yelling Behavior



Around the seventh day of intervention, Student B began wetting his pants in the box. This behavior lasted about one week and then stopped all together. Overall, there was a decrease in the yelling behavior as the intervention continued.

Results

Figure 1 shows that there was over a 75% reduction, within two weeks, of the inappropriate humming behavior of Student A. Proportionately the Teacher Instruction versus Free Time display of behavior remained fairly consistent. The intervention was very successful in the morning school hours but less effective by the afternoons.

Figure 2 shows that during baseline Student B's yelling behavior occurred a little over 10% of the school day. There was very little difference in the display of this behavior during teacher instruction versus free time.

Figure 3 shows that during intervention Student B's yelling behavior decreased approximately 75% within two months. The staff felt that the intervention plan was effective throughout the school day.

Discussion

Educational research with the profoundly mentally retarded population (P.M.R.) has been limited and vague in the past. After spending an academic year pursuing research work with the P.M.R., one begins to better understand the obstacles and frustrations that discourage extensive work in a very needed area. By sharing these realizations with interested educators, hopefully others will realize that their frustrations are not unique to them alone and together we can encourage ourselves to continue research at a level of learning that is so vaguely understood.

The major obstacles to be discussed, as they related to P.M.R. research, are:

1. How much of a behavior change should one expect in order to feel successful?
2. How much time during a school day should be devoted to the research goal?
3. Is a data keeper necessary and if so who can do this job?
4. How careful must educators be regarding the selection of punishment and securing prior permission from parents and administrators?
5. What are the implications of extended absences from school as they relate to the reliability and validity of the study?
6. How consistent is the intervention plan when there is usually a larger number of staff in a P.M.R. class?
7. Is there enough positive reinforcement being given to the students?

Seven questions and responses will be addressed:

1. How much of a behavior change should an educator expect in order to feel successful?

Before setting any goals, a period of time should be given to familiarizing oneself and the staff with the student. Reading the child's file and conversing with parents and educators who have had previous experiences with the child are all important steps to learning about a student. Establishing a good rapport with the student is absolutely necessary before attempting to modify behavior. The educator must pay particular attention to what the child likes to do and what types of positive and negative stimuli result in a reaction from the student. Also, determine how long the student has been displaying the identified behavior. Usually the longer and the more consistent a behavior has been displayed by the student, the more ingrained the behavior is. Therefore, using an adversive stimuli may be the most appropriate alternative. Educators working with the P.M.R. must remember that these students are severely limited and any gains are naturally going to be small and extremely slow developing. Expecting the natural can help decrease frustration and encourage staff to be consistent and patient.

2. The second question is how much time each school day should be devoted to a research goal for a P.M.R. student?

In the research study performed by the authors, a single conviction was shared throughout. That was that the reduction of a self-stimulating behavior would both increase the social acceptance of the child as well as allow for the possibility of more instruction on other appropriate goals.

Sometimes teachers feel that an intervention program could remove a student from instruction too much for them to justify. It is the authors' opinion that the possible accomplishment of a long range goal that could increase the happiness of a student is far more important than instructional review. If the goal was well thought through initially then the intervention plan should be used consistently throughout the entire day.

3. Is a data keeper necessary?

Someone must keep data since it is such an important instrument in determining changes in behavior. Often change cannot be seen on a day to day basis with a child whose behavior is so continuous. However, data will indeed indicate if intuitions are correct or not. By analyzing the data it can be determined if intervention methods need to be changed. Throughout the study the authors found a monthly review to be a sufficient account of the data. If the teacher is anxiously reviewing data on a daily or even a weekly basis, frustration could replace a rational view of the results. However, periods between data review should not extend beyond a month since parents and staff members will need encouragement, and their concerns will need to be addressed.

Record keeping and baseline data can be a difficult chore. Frequently the demands of the P.M.R. class are too strenuous for the teacher to be the data collector. For the purpose of this study, the authors were able to obtain a grant to pay a college student to come into the class on a daily basis and record the behaviors. Teachers may be fortunate enough to teach near a college or university where interested special education majors may want to help just for the experience. It may also be possible for a school district to provide a small budget to pay a trained adult to collect data. This enables the staff to see results that otherwise may have gone unnoticed. It encourages staff to continue their efforts with the intervention plan and make modifications when necessary. If possible, use the same person to take data from day to day. This avoids the recording of different behaviors which obviously effect the reliability and validity of the findings.

4. How careful must educators be regarding the selection of punishment and securing prior permission from parents and administrators?

Prior to the discussion on design of any behavior management system, the teacher should investigate the legal rights and restrictions of handicapped individuals at the state and local school district level. This is particularly important when the use of punishment or adversive stimuli are being used.

Always meet with parents, the principal, and the director of special services to discuss your interest in gathering data concerning a student's

behavior. Brainstorm on techniques and strategies that can help the student achieve a goal. The authors found the parents were pleased to know that the educators cared enough about their child to take the time to plan an individual program with their child. It gives the parents an opportunity to share obstacles they have faced at home and together goals can be selected. No one knows the frustrations of working with a P.M.R. student better than the parents. In most cases the parents are very supportive. They only expect to be informed, which is their legal and moral right.

5. What are the implications of a student's extended absences from school as it relates to the reliability and validity of the study?

Consistent treatment is imperative throughout a study in order for the findings to be considered reliable. This can be a problem with a P.M.R. class since so many of the students have severe health problems which result in extended absences.

Certainly the absences are frustrating to a data keeper who arrives at the school only to find the student absent. However, by realizing from the beginning that this is very common when working with students who are so severely handicapped then it is easier to accept without becoming discouraged. Allow extra time for a study with P.M.R. students in order to gather data that supports the findings to be consistent and valid.

6. When more than one individual works with the P.M.R. student, how can intervention remain consistent?

It is not uncommon for a P.M.R. teacher to have several aides and even a student teacher. It is important for the teacher to meet with the staff to discuss and demonstrate the intervention plan before it goes into effect. Make it clear from the beginning the importance of consistent treatment in regard to words and actions given to the P.M.R. student. Inform the staff that there will be individual feedback provided to them in order to be sure that everyone is reacting the same way to the identified behavior attempting to be altered. Being upfront can avoid internal dissension among staff as the study continues.

7. The last obstacle and probably the most important to address is whether enough positive reinforcement is being given to the P.M.R. student. Since working with these students requires almost total care and a lot of physical lifting, it is easy to feel frustrated and respond to students with more negative rather than positive comments. Acknowledging that this is probably true and discussing it with the staff on a regular one to one basis, the classroom atmosphere can shift to a more positive one. If they know from the beginning that one criteria that they will be evaluated on is the amount of positive reinforcement they give to the students there should be an increase. Bringing the need for positive reinforcement to everyone's attention should result in an increase of positive comments and a happier atmosphere for everyone.

In summary, educational research with the P.M.R. population is very much needed in our schools today. Although the obstacles and frustrations are evident, knowing about them previous to a study can encourage educators to be interested, patient, consistent, and a member of a working team which has a positive frame of mind. Consider the needs of your students and ways you could alter their

behaviors by consistent teamwork within your classroom. Educators need to hear about your thoughts and experiences. By encouraging each other to become "turned on" to the changes we can possibly make with a P.M.R. student, we are encouraging educators to better understand an area of education that desperately needs active involvement.

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